ANNUAL AND BIENNIAL SUMMARY REPORT TO THE WATER POLICY INTERIM COMMITTEE (WPIC) ON NUMERIC NUTRIENT STANDARDS AND VARIANCES FOR MONTANA'S SURFACE WATERS (2015-2016)

PREPARED FOR WPIC BY THE MT DEPARTMENT OF ENVIRONMENTAL QUALITY[1]

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Numeric nutrient standards and variance rules were adopted by the Board of Environmental Review and Department in July 2014 and approved by EPA in February 2015. Since their adoption, the standards (and variances) have been used in the development of the MPDES permits. Twelve general variances have been issued since the standard's adoption.

The Department commissioned a report (completed May 2015) to identify available technologies, best management practices (BMPs), and optimization methods for increasing ammonia (NH_3), total nitrogen (TN), and total phosphorus (TP) removal efficiencies of wastewater lagoons in Montana. The goal of the report was to provide a thorough review of the technical literature and identify the most promising approaches for future application in Montana. Following up on the report, in June 2016, the Department began working with the town of Joliet on a lagoon optimization project. The Department hopes to enable small communities which use wastewater lagoons to move towards compliance with ammonia, TP, and TN standards without conversion to full mechanical facilities. At the Joliet lagoon, the Department deployed continuous monitoring instruments to characterize the facility's waste treatment capabilities today, and these data will be contrasted to its capabilities after enhancements have been applied. The Department will be issuing a request for proposals, and one of the successful bidders will install their technology/BMP in Joliet's lagoon. The applicable technology or BMP will be expected to:

1. Be low cost, with a minimum of mechanical elements;
2. Be easy to operate and maintain by the community's lagoon operator;
3. Be easily maintainable over the long-haul (years);
4. Be able to substantially reduce effluent concentrations of ammonia, TN, and (if possible) TP compared to current performance; and
5. Be readily installable in full-scale, operational municipal wastewater lagoon systems

The Department is planning on working with other communities in the same way in the coming years.

In May 2016 EPA was sued in federal court over its approval of Montana's nutrient standards variance rules. Montana's law allows most dischargers to meet the numeric nutrient standards gradually, over twenty years, to allow time for nitrogen and phosphorus removal technologies to improve and become less costly and to allow time for nonpoint sources of nitrogen and phosphorus pollution to be better addressed. The lawsuit alleges that EPA's approval of Montana's nutrient variance rule fails to meet

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requirements of the federal Clean Water Act because it does not protect local waterways and fisheries. The Department will soon petition to intervene in the case on the side of EPA.

The Department continues to progress on large river nutrient standards. The Department completed field work in fall 2015 on the Missouri River between Holter Dam and Loma, MT; these data will inform the computer model used to derive the nutrient criteria. The modeling work on this Missouri reach will likely be commenced in the next year. Over the past year, the Department has made major strides towards finalizing numeric nutrient criteria for the reach of the Yellowstone River between the Paradise Valley and the Bighorn River confluence. A next-generation model was developed by Department staff and is currently in technical peer review. This updated model (AT2K, version 2) better simulates conditions of the Yellowstone than its predecessor. The Department will be deriving nutrient criteria for the Yellowstone River in the next 3-6 months using this model.